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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,598	02/16/2001	Thomas Thaler	040357.010100D	4386
22191 7590 07/09/2007 GREENBERG TRAURIG, LLP 1750 TYSONS BOULEVARD, 12TH FLOOR MCLEAN, VA 22102			EXAMINER ABELSON, RONALD B	
			ART UNIT 2616	PAPER NUMBER
			NOTIFICATION DATE 07/09/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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sk

<b>Office Action Summary</b>	<b>Application No.</b> 09/785,598	<b>Applicant(s)</b> THALER ET AL.	
	<b>Examiner</b> Ronald Abelson	<b>Art Unit</b> 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 4/30/07.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 25-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 25-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 25, 30, and 37 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6,370,138).

Regarding claims 25 and 37, Kim teaches generating a network-wide time signal using a reference time generator (fig. 1 box 400, receiving a system clock from ATM switch 400, col. 3 lines 35-55). Note, the system clock is in the ATM format.

Kim teaches distributing the network-wide time signal over the network to a node (fig. 1 box 400, 300, FCDA 300 receiving a system clock from ATM switch 400, col. 3 lines 35-55).

Kim teaches converting, at each respective node, the network-wide time signal to a local synchronization signal as required by a respective application (fig. 1 box 300, 100,

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generating a clock signal which is to be used by a frame relay interface apparatus, col. 3 lines 35-55). Note, the FCDA receives an ATM signal and generates a frame relay signal.

Kim teaches synchronizing the timing of each node for the respective application using the local synchronization signal (fig. 1 box 300, 100, generating a clock signal which is to be used by a frame relay interface apparatus, col. 3 lines 35-55).

Kim teaches distributing the network-wide time signal to a single node (fig. 1 box 300) and then distributing the local signal to a plurality of nodes (fig. 1 box 100). In the system of Kim a single point of failure exists (fig. 1 box 300). Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Kim by eliminating the single point of failure by placing a FCDA (fig. 1 box 300) in each FRIA (fig. 1 box 100) and transmitting the network-wide time signal to each of the plurality of FRIAs. This modification would benefit the system by eliminating the single point of failure.

Regarding claim 30, the local synchronization signal has an associated frequency (fig. 1: see output of FCDA).

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3. Claims 26, 27, 32, 33, and 36 - 39 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim as applied to claim 25 above, and further in view of Eshenbach (US 5,798,732).

Regarding claims 26 and 38, Kim is silent on tracking signal propagation delay at each node of the network using the network-wide time signal / synchronization signal; and wherein the step of converting includes the step of: Generating the local synchronization signal using the signal Propagation delay of the respective node.

Eshenbach teaches tracking signal propagation delay at each node of the network using the network-wide time signal / GPS clock; and wherein the step of converting includes the step of: Generating the local synchronization signal using the signal Propagation delay of the respective node (fig. 3, col. 7 lines 3-23).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Kim by synchronizing the local clocks using GPS, as shown by Eshenbach. This modification can be performed according to the teachings of Eshenbach. This modification would benefit the system by providing a mechanism for synchronizing the respective nodes in the system.

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Regarding claims 27 and 39, the limitations are addressed in the passage shown for claims 26 and 38.

Regarding claim 32, performing delay compensation at each respective node (adjusting local clock time with transmission delay, col. 7 lines 3-23).

Regarding claim 33, delay compensation is performed by adding an extra signal delay to the local synchronization signal (adjusting local clock time with transmission delay, col. 7 lines 3-23).

Regarding claim 36, the step of generating the network-wide time signal includes the step of: utilizing a global positioning system (GPS)-based reference signal generator (GPS, col. 7 lines 3-23).

4. Claims 28 and 40 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kim and Eshenbach in view of as applied to claims 27 and 39 above, and further in view of Lovett (US 6,591,370).

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The combination is silent on the network cycle master signal and each local cycle master signal is stored in a respective network cycle master register and local cycle master register, at each respective node.

Lym teaches storing a clock signal in a register (col. 4 line 31 - 33).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of combination by storing the master clock and local clock values in a register, as shown by Lovett. This modification would benefit the system since a register is a proven, reliable method for storing clock signals.

5. Claim 29 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim as applied to claim 25 above, and further in view of applicant's admitted prior art 'AAPA'.

Kim is silent on a house synchronization signal.

AAPA teaches a house synchronization signal (pg. 1 line 21).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Kim by transmitting a house synchronization signal for the network-wide time signal, as suggested by AAPA. This modification would benefit the system since house synchronization signals guarantee synchronicity of

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all connected devices (AAPA: pg. 1 line 21).

6. Claim 31 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim as applied to claim 25 above, and further in view of Lutz (US 6,735,711).

Kim is silent on synchronizing includes the step of: phase locking the local synchronization signal to a predetermined cycle value.

Lutz teaches phase locking the local synchronization signal to a predetermined cycle value (abstract).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Kim by phase locking the local clock to the master clock, as suggested by Lutz. This modification can be performed according to the teachings of Lutz. This modification would benefit the system since phase lock loops are a proven, reliable method for performing synchronization.

7. Claims 34 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim as applied to claims 25 and 37 above, and further in view of Domon (US 6,678,781).

Kim is silent on IEEE 1394 compliance.



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Domon teaches the benefits of IEEE 1394 compliance (col. 1 lines 14-18).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Kim by making the nodes IEEE 1394 compliant, as suggested by Domon. This modification can be performed according to the teachings of adhering to IEEE 1394 standards. This modification would benefit the system since IEEE 1394 provides for real-time transport of digital video (Domon: col. 1 lines 14-18).

8. Claim 35 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim as applied to claim 25 above, and further in view of Weidemann "Application Critical Parameters for Rubidium Standards".

Kim is silent on generating the network wide time signal includes the step of utilizing a rubidium reference signal generator.

Weidemann teaches the further recited limitation above at e.g., in the summary on page 87.

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Kim by generating the

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network wide time signal includes the step of utilizing a rubidium reference signal generator, as shown by Weidemann. This modification can be performed according to the teachings of Weidemann. This modification would benefit the system to provide highly reliable clocking source.

9. Claim 42 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim as applied to claim 37 above, and further in view of Lym (US 20060013223).

Regarding claim 42, each node having a means adapted to perform local timing control (Kim: generating clock signal used for frame relay, col. 3 lines 35-55).

Kim is silent on a plurality of applications using timing functions under local timing control, with each node of the plurality of nodes associated with at least one application wherein each node of the plurality of nodes of the network has means adapted to synchronized the at least one application associated with the respective node using the local synchronization signal.

Lym teaches a plurality of applications using timing functions under local timing control, with each node of the

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plurality of nodes associated with at least one application wherein each node of the plurality of nodes of the network has means adapted to synchronized the at least one application associated with the respective node using the local synchronization signal ([0005]).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Kim by synchronizing the applications residing at each node to the local clock located at the node, as suggested by Lym. This modification can be performed according to the teachings of Lym. This modification would benefit the system by ensuring the timing of the applications are accurate by using a local clock as opposed to a system clock that is subject to delay in its transmission to the node.

10. Claim 43 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kim and Lym as applied to claim 42 above, and further in view of Lovett (US 6,591,370).

The combination is silent on the network cycle master signal and each local cycle master signal is stored in a respective network cycle master register and local cycle master register, at each respective node.

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Lym teaches storing a clock signal in a register (col. 4 line 31 - 33).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by storing the master clock and local clock values in a register, as shown by Lovett. This modification would benefit the system since a register is a proven, reliable method for storing clock signals.

11. Claim 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kim and Lym as applied to claims 42 above, and further in view of Domon (US 6,678,781).

The combination is silent on IEEE 1394 compliance.

Domon teaches the benefits of IEEE 1394 compliance (col. 1 lines 14-18).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by making the nodes IEEE 1394 compliant, as suggested by Domon. This modification can be performed according to the teachings of adhering to IEEE 1394 standards. This modification would benefit the system since IEEE 1394 provides for real-time transport of digital video (Domon: col. 1 lines 14-18).

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (571) 272-3165. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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*RA*

Ronald Abelson  
Examiner  
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